Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-16. (Canceled)

17. (Currently Amended) An integrated circuit ~~comprising~~ comprising:

a clock circuit emitting a clock signal;

~~at least~~ a digital part comprising a plurality of ~~transistors connected to one another so as to form a plurality of functional elements, the functional elements being grouped in~~ subassemblies each ~~comprising~~ comprising:

a first power supply terminal;

~~and~~ a second ~~electrical~~ power supply ~~terminal and~~ terminal;

a processor connected between the first and second power supply terminals; and

a clock ~~input,~~ input coupled to the clock circuit; and

a level shifter connected between the clock circuit and the clock input of at least one of the subassemblies,

wherein the level shifter is configured to adapt the clock signal to a voltage between the first and second power supply terminals of the at least one of the subassemblies, and

the subassemblies ~~being powered~~ are connected in ~~a~~ series ~~arrangement~~ by means of their first and second power supply terminals ~~from~~ between terminals of a voltage supply ~~source,~~ source.

~~wherein a same clock signal is applied to the clock input of all subassemblies, by a device for shifting the levels of the clock signal.~~

18. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein the clock inputs of at least two adjacent subassemblies are connected by ~~a device for shifting the clock signal levels.~~the level shifter.

19. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 18, wherein the clock input of an end subassembly is connected by an additional ~~device for shifting the clock signal levels~~ level shifter at the output of the clock circuit.

20. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein the ~~device for shifting the clock signal levels~~ level shifter comprises at least one capacitor.

21. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein the ~~device for shifting the clock signal levels~~ level shifter comprises at least one transistor.

22. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein all the subassemblies are identical.

23. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein each of the subassemblies further comprises a voltage limiting circuit connected between the first and the second ~~electrical~~ power supply terminals.

24. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 23, wherein the voltage limiting circuit comprises a diode.

25. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 23, wherein the voltage limiting circuit comprises a transistor.

26. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein each subassembly further comprises a decoupling capacitor connected between the first and the second ~~electrical~~ power supply ~~terminals of the subassembly.~~ terminals.

27. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein the integrated circuit further comprises electrical insulation between the subassemblies.

28. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 27, wherein the electrical insulation between the ~~different~~ subassemblies comprises reverse biased diode junctions.

29. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 27, wherein the electrical insulation between the ~~different~~ subassemblies comprises dielectric zones.

30. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein the integrated circuit further comprises silicon blocks from a silicon-on-insulator substrate.

31. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein the subassemblies are at different electrical potentials, and

~~wherein~~ a potential difference between two end subassemblies is greater than a potential difference between terminals of each subassembly.

32. (Canceled)

33. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein ~~the~~ a same current flowing through ~~the~~ different subassemblies varies by less than 20%.

34. (Currently Amended) The integrated ~~Integrated~~ circuit according to claim 17, wherein the subassemblies are formed in such a way that, at all times in operation, ~~the~~ a same current flows through each of the subassemblies.

35. (Currently Amended) A method of controlling current in an integrated circuit comprising:

applying a same clock signal to a clock input of all subassemblies via a ~~device for shifting the levels of the clock signal,~~ level shifter configured to adapt a clock signal emitted from a clock circuit to a voltage between first and second power supply terminals of at least one of the subassemblies, the subassemblies being in a structure in which an integrated circuit ~~comprises at least~~ comprises:

a clock circuit emitting a clock signal;

a digital part comprising ~~a plurality of transistors connected to one another so as to form a plurality of functional elements, the functional elements being grouped in~~ subassemblies each ~~comprising~~ comprising:

a first power supply terminal;

~~and~~ a second ~~electrical~~ power supply ~~terminal and~~ terminal;

a processor connected between the first and second power supply terminals; and

a clock ~~input,~~ input coupled to the clock circuit; and

wherein the level shifter is connected between the clock circuit and the clock input of the at least one of the subassemblies, and

the subassemblies ~~being powered~~ are connected in ~~a~~ series ~~arrangement~~ by means of their first and second power supply terminals ~~from~~ between terminals of a voltage supply source.

36. (Currently Amended) A power supply system for an integrated circuit comprising:

a power supply;

an integrated circuit, the integrated circuit further comprising:

a clock circuit emitting a clock signal;

~~at least~~ a digital part comprising a plurality ~~of transistors connected to one another so as to form a plurality of functional elements, the functional elements being grouped in~~ subassemblies each ~~comprising~~ comprising:

a first power supply terminal;

~~and~~ a second ~~electrical~~ power supply terminal;

a processor connected between the first and second power supply terminals; and

a clock ~~input,~~ input coupled to the clock circuit; and

a level shifter connected between the clock circuit and the clock input of at least one of the subassemblies,

wherein the level shifter is configured to adapt the clock signal to a voltage between the first and second power supply terminals of the at least one of the subassemblies, and

the subassemblies ~~being powered~~ are connected in ~~a~~ series ~~arrangement~~ by connecting a second supply terminal of a subassembly to a first supply terminal of a next subassembly in the series arrangement, and connecting the first supply terminal of a first subassembly in the series arrangement and the second supply terminal of a last subassembly in the series arrangement across the power ~~supply; and~~ supply.

~~a clock circuit providing an identical clock signal to the clock input of each one of the subassemblies via a device for shifting the levels of the clock signal.~~

37. (New) The integrated circuit according to claim 17, wherein an electrical current flows from a positive terminal of the power supply source to a negative terminal of the power supply source.